SIX GOING ON SEVEN

A Page in Time: Looking Back at the Council's 6th Power Plan Development Process

As the development of the Northwest Power and Conservation Council's 7th Power Plan gets underway, it is important that we understand the achievements made to date. In order to do this, Bonneville Power Administration (BPA) has commissioned a technical analysis utilizing 6th Power Plan targets, related regional energy savings achievements to date, and utility conservation potential assessments.

A review of the supporting documentation created during the 6th Power Plan development process is the first step of this project and will help us understand who was involved and what key topics were discussed. During the development of the 6th Power Plan, the Northwest Power and Conservation Council (the Council) developed conservation supply curves, engaged stakeholders through advisory committees, released additional papers on assumptions and issues where needed, and embraced formal and informal public comments. The result is a rich collection of information and insight derived through the participation by hundreds of individuals and 40 organizations.

During the review of available literature, key topics of interest emerged and we have organized the documents by these topics, creating a 6th Power Plan Development Library. This library has been developed to offer interested parties a single location for locating the literature published during the 6th Plan process. This library is organized by the following six topics:

1. **Planning Process and Feedback.** Discussions of the 6th Power Plan development process, the forums for reviewing key plan assumptions, and opportunities for stakeholder input.
2. **Emerging Technologies.** Identification and characteristics of technologies that are commercially available but for which energy savings and/or market acceptance are not fully tested and validated.
3. **Measure Characterization.** Energy savings, cost, baseline assumptions, and applicability of the measures and measure bundles that form the building blocks of the conservation supply curves,
4. **Economic Framework.** Avoided cost determination, risk assessment, and measure screening criteria used to determine cost-effectiveness of conservation resources.
5. **Targets.** The establishment of annual conservation acquisition targets based on the conservation supply curves from the 6th Power Plan.
6. **Sixth Plan Implementation.** Plans and strategies for acquiring conservation to meet the established targets.

The tables below identify, summarize, and provide links to key documents in the 6 topic areas. Many of the documents, including presentations, reports, memos, or comments, address more than one of the topic areas, but documents are listed in the area determined to be most relevant.

6th Power Plan Development **Library**

1. PLANNING PROCESS AND FEEDBACK

Key documents related to the planning process and public comments are highlighted in this section. It is important to note that the views expressed and represented in the public comments are in the context of the 6th Power Plan planning process, and does not necessarily represent current views of the individuals or organizations quoted.

Document Description	Format	Forum	Date	Location
Draft Sixth Plan's Assessment of Regional Conservation Potential	Presentation	CRAC	04/17/09	Link
The Pace of Conservation Acquisition	Presentation	CRAC	04/17/09	Link
Meeting Minutes: Conservation Resources Advisory Committee (CRAC) work plan	Minutes	CRAC	03/12/09	Link
Process for Review of Sixth Plan Supply Curves	Presentation	CRAC	07/19/09	Link
Northwest Efficiency Taskforce Report, Recommendations, Action Plan	Report	RTF, CRAC, the Council	10/01/09	Link
Public comments on Draft 6th Power Plan	Comments	RTF, CRAC, the Council	11/06/09	Link
Statement of Basis and Purpose for the Sixth Power Plan and Response to Comments on the Draft Sixth Power Plan	Report	Various	04/01/10	Link
2012 CRAC Proposed Agenda Items	Memo	CRAC	09/20/12	Link
Draft Sixth Power Plan Mid-Term Assessment Report comments	Comments	Various	12/20/12	Link
Overview of Planning Process in Preparation for the Northwest Power and Conservation Council's 7th Plan	Presentation	CRAC	08/21/13	Link

2. EMERGING TECHNOLOGIES

Emerging technologies, such as ductless heat pumps or heat pump water heaters, were reviewed in detail during the development of the 6th Power Plan, and emerging technology assumptions were frequently debated by stakeholders during the plan development. Key documents related to emerging technology assumptions, savings, ramp rates and stakeholder input are highlighted in this section.

Document Description	Format	Forum	Date	Location
Emerging Technologies and Business Practices Stories	Presentation	RTF, CRAC	09/01/08	Link
Regional Technical Forum (RTF) Emerging Technologies List	Spreadsheet	RTF, CRAC, the Council	09/01/08	Link

Meeting Minutes: BPA emerging technology program	Minutes	RTF	01/06/09	Link
Meeting Minutes: CFL's contribution to regional savings, HPWHs, Industrial Energy Management, CFLs, readiness of conservation bundles and technologies, gauging uncertainty of ramp rates and assumptions	Minutes	CRAC	07/01/09	Link

3. MEASURE CHARACTERIZATION

Individual energy conservation measures or measure bundle energy savings are one of the key inputs that drive the targets in the 6th Power Plan. Key documents related to measure savings, costs, baseline assumptions, and measure applicability are highlighted in this section.

Document Description	Format	Forum	Date	Location
Meeting Minutes: Assumptions for waste water treatment plant savings and measures in Sixth Plan, emerging technology discussion, and ductless heat pump cost-effectiveness	Minutes	RTF	09/30/08	Link
Meeting Minutes: Duct sealing, Sixth Plan updates for Residential Appliance Measures, residential lighting hours, commercial building assumptions	Minutes	RTF	11/04/08	Link
Meeting Minutes: Sixth Plan Proposed industrial supply curves	Minutes	RTF	01/06/09	Link
Sixth Power Plan CRAC Technical Group ECMs	Presentation	CRAC Technical Group	06/19/09	Link

4. ECONOMIC FRAMEWORK

As part of the regional Power Plan development, the Council seeks to identify cost-effective conservation resources. This section identifies analyses that determine the costs avoided by deployment of conservation resources, the impact of conservation on the risk faced by the region related to meeting the demand for electricity, and the methods for assessing the cost-effectiveness of conservation resources.

Document Description	Format	Forum	Date	Location
Cost-effectiveness: Implications for Bonneville and Utility Programs	Presentation	CRAC	02/20/09	Link
Sixth Plan Conservation Resource Cost-effectiveness	Presentation	CRAC	03/12/09	Link
Meeting Minutes: Conservation cost-effectiveness	Minutes	CRAC	03/12/09	Link
Meeting Minutes: Draft Sixth Plan portfolio model results and conservation targets	Minutes	CRAC	05/15/09	Link
BPA's Case for Conservation: An examination of the regional, utility, and consumer perspectives of the economic impact of energy efficiency	Report	Various	06/28/13	Link

5. TARGETS

One of the primary outputs of the 6th Power Plan is the regional five-year conservation target and annual conservation goals. Key documents related to targets, ramp rates, implications of Washington's I-937 legislation, historical achievement, and the capacity of the regional infrastructure to deliver savings are included in this section.

Document Description	Format	Forum	Date	Location
Achievability Issues	Memo	CRAC	03/12/09	Link
Sixth Plan Conservation Resource Cost-effectiveness	Presentation	CRAC	03/12/09	Link
Meeting Minutes: Constraints on conservation acceleration and sustained annual acquisition levels	Minutes	CRAC	03/12/09	Link
Meeting Minutes: The Council's cost-effectiveness guidebook and the draft action plan	Minutes	CRAC	05/15/09	Link
Sixth Power Plan: Setting Conservation Targets and Implementation Strategies	Presentation	CRAC	06/19/09	Link
Draft Action Plan for the Sixth Power Plan	Report	CRAC	07/10/09	Link

6. SIXTH PLAN IMPLEMENTATION

Specific plans to meet the targets established in the 6th Power Plan, resources to assist utilities in meeting the targets, and the mid-term assessment of the Power Plan implementation are identified in this section.

Document Description	Format	Forum	Date	Location
Sixth Northwest Conservation and Electric Power Plan	Report	Various	03/01/10	Link
Sixth Power Plan Action Plan	Report	Various	03/01/10	Link
BPA Action Plan for Energy Efficiency	Report	Various	03/01/12	Link
Conservation Supply Curves	Excel	Various	02/25/13	Link
Sixth Power Plan Mid-Term Assessment Report	Report	Various	03/13/13	Link

GLOSSARY OF TERMS

We have defined a list of terms commonly used throughout the 6th Power Plan development to help you navigate the available documents. References used for the preparation of this glossary include:

- National Action Plan for Energy Efficiency. www.epa.gov/eeactionplan
- Northwest Power and Conservation Council. www.nwcouncil.org

Term	Definition
Avoided Cost	The forecasted economic benefits of energy savings. In the context of energy efficiency, these are the costs that are avoided by the implementation of an energy efficiency activity. Such costs are used in benefit-cost analyses of energy efficiency activities. Since efficiency activity reduces the need for electric generation, these costs include those associated with the cost of electric generation, transmission, distribution, and reliability. Typically, costs associated with avoided energy and capacity are calculated. Other costs avoided by the efficiency activity can also be included, among them the value of avoided emissions not already embedded in the generation cost, impact of the demand reduction on the overall market price for electricity, and avoided fuel or water.
Baseline	Conditions, including energy consumption and demand, which would have occurred without implementation of the subject energy efficiency activity. Baseline conditions are sometimes referred to as "business-as-usual" conditions and are used to calculate project- and program-related savings. Baselines can also include definition of non-energy metrics that are being evaluated, such as air emissions and jobs.
Bonneville Power Administration (BPA)	The Northwest's federal power marketing agency and wholesaler of electricity who sells power to both public and private utilities, direct-service customers and other public agencies. Services the states of Washington, Oregon, Idaho, the western portion of Montana, and small areas of California, Nevada, Utah and Wyoming. BPA also performs activity in energy conservation, resource acquisition and fish and wildlife as defined in the Northwest Power Act.
Capacity	Capacity is the maximum electric output that can be produced under specific conditions, typically expressed in kilowatts (kW) or megawatts (MW). More specifically, savings capacity is the energy savings occurring during a specified period (typically peak), where that period is often defined as the peak hour, but it may be the average over multiple hours.
Conservation Acquisition	The acquisition of conservation as a resource through the installation or implementation of energy conservation measures that are tied to a certain amount of energy savings. Also referred to as Acquiring Conservation.
Conservation Acquisition Targets	The desired goal for conservation acquisition as defined in the Northwest Power and Conservation Council Power Plan. Measured in average megawatts.
Conservation Acceleration	Acquiring conservation at a more aggressive ramp rate than established in the Power Plan.
Conservation Bundles (& Technologies)	Groups of similar measures that are analyzed together when estimating conservation savings. Also referred to as Measure Bundle Energy Savings.
CPA	Conservation Potential Assessments are studies conducted to assess market baselines and future savings that may be expected for different technologies and customer markets over a specified time horizon.
CRAC	The Conservation Resources Advisory Committee, or CRAC, is a committee to advise the Council in the formulation and review of policy and program alternatives for effectively developing the region's cost-effective conservation potential relating to the Power Plan. It is

	chartered under the Federal Advisory Committee Act and the members are appointed by the Council. CRAC meetings are open to the public. The Committee addresses: ▪ Seventh Power Plan Action Plan items ▪ Mechanisms and alternatives for implementation ▪ Achievability rates, both near-term and long-term ▪ Regulatory incentives ▪ The treatment of energy savings potential from direct use of natural gas ▪ The uncertainty associated with conservation costs and savings ▪ Methodology for avoided cost
Energy Conservation Measure (ECMs) - (Or Technical Group ECMs)-	Any type of project conducted or technology implemented for the purpose of reducing energy consumption in a building. The goal of an ECM is to achieve energy savings by reducing the amount of energy used in a particular process, technology or facility. Examples of ECMs include windows, heat pump water heaters, lighting, insulation or other measures.
IOUs – Investor-owned Utility	An IOU is a utility that is managed as a private enterprise as opposed to as a function of government or a utility cooperative.
Lost Opportunity	Lost opportunity refers to an efficiency measure or efficiency program that seeks to encourage the selection of higher-efficiency equipment or building practices than would typically be chosen at the time of a purchase or design decision.
Non-programmatic Savings	Non-programmatic savings are defined as electricity savings that are: ▪ Cost-effective; ▪ Above the baseline assumed by the Council for determining conservation potentials in the Power Plan; ▪ Not incented through utility-sponsored energy efficiency programs; and ▪ Not part of net market effects claimed by the Northwest Energy Efficiency Alliance(NEEA).
Northwest Power Act	An act of Congress on December 5, 1980 that authorized the creation of the Northwest Power and Conservation Council. It directs the Council “to prepare a plan to protect, mitigate and enhance fish and wildlife of the Columbia River Basin that have been affected by the construction and operation of hydroelectric dams while also assuring the Pacific Northwest an adequate, efficient, economical and reliable electric power supply”.
Ramp Rates	A ramp rate expresses a change in a specific variable (in this case energy savings) over time. In the context of the Power Plan, ramp rates are assumptions based upon the principle that it takes time to develop some concervation measures to their full potential, while other measures may be available right away; therefore conservation potential ramps up over time (and occasionly ramps down). These assumptions are one of the elements used by the Council when establishing cumulative conservation targets and result in achievable conservation potential that will vary, as opposed to being evenly available, across each year in the plan period.
Retrofit	An efficiency measure or efficiency program that seeks to encourage the replacement of functional equipment before the end of its operating life with higher-efficiency units (also called “early retirement”) or the installation of additional controls, equipment, or materials in existing facilities for purposes of reducing energy consumption (e.g., increased insulation, lighting occupancy controls, economizer ventilation systems).
Programmatic Savings	Programmatic energy savings are reductions in utility loads that are reported, tracked and rebated through utility energy efficiency programs.

Public Utilities	A business or organization that furnishes and maintains the infrastructure for the public at large including water, electricity, natural gas and other essentials. Publicly owned utilities include municipal utilities, which are owned by a municipality, and cooperative utilities, which are owned by the customers they serve.
Regional Conservation Potential	The Council develops the regional conservation potential as part of the Power Plan. The CRAC advises on its formulation and reviews policy and program alternatives to aid in its effective development.
Regional Technical Forum (RTF)	An advisory committee created to develop standards to verify and evaluate conservation savings that is also responsible for developing a conservation and renewable resources rate discount (C&RD) for BPA. The committee was established in 1999. Voting members are appointed by the Council.
Supply Curves	Estimates of costs and savings from various conservation measures. The 6th Power Plan includes conservation supply curves for sectors including residential, commercial, industrial, agricultural and distribution system.
The Northwest Power and Conservation Council (The Council)	A council that exists to "develop and maintain a regional power plan and a fish and wildlife program to balance the Northwest's environment and energy needs." The Council was authorized by congress through the Northwest Power Act on December 5 1980. The three specific tasks of the Council are: 1. To develop a 20-year electric power plan that will guarantee adequate and reliable energy at the lowest economic and environmental cost to the Northwest; 2. To develop a program to protect and rebuild fish and wildlife populations affected by hydropower development in the Columbia River Basin; and 3. To educate and involve the public in the Council's decision-making processes.
WA I-937	The "Energy Independence Act" or I-937 was passed by voters in 2006, requiring large electric utilities in Washington to serve 15% of their retail load with energy from new, renewable resources by 2020 and to undertake all cost effective conservation. The WA State Dept. of Commerce, the State Auditor and the State Attorney General are responsible for ensuring compliance.
Power Plan	A plan developed by Council and updated every five years, to ensure the region's power supply and to acquire cost-effective energy efficiency. The process relies on broad public participation to inform the plan and to build consensus on its recommendations.The plan addresses risks and uncertainties posed for the northwest region's electricity future and seeks an electrical resource strategy that minimizes expected cost of and risk to the region's power system over the following 20 years. It considers multiple scenarios to identify the most cost-effective and least risky resources for the region to rely on.

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